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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MARK WEBER, PHILIPPA HOCKING,
ALLAN DUFF, and JAMES ARTHER AUGER

Appeal 2008-3565
Application 10/706,336
Technology Center 1700

Decided: September 30, 2008

Before BRADLEY R. GARRIS, CHARLES F. WARREN, and
JEFFREY T. SMITH, *Administrative Patent Judges*.

SMITH, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the Primary Examiner's rejection of claims 1 to 3. We have jurisdiction under 35 U.S.C. § 6 (2006).[1]

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[1] In rendering this decision we have considered the Appellants' arguments presented in the Brief dated May 15, 2007.

Appellants' invention is directed to thin walled polyethylene injection molding (I/M) containers. The containers are useful for packaging foods such as cottage cheese and ice cream. (Spec. 1.) Claim 1 is representative of the invention and is reproduced below:

> 1. A container having a nominal volume of 100 mL to 12 L prepared by injection molding of ethylene copolymer resin, said container having a Vicat softening point of greater than 121°C and an average test drop height point value, as determined by ASTM D5276, of greater than 2.5 feet, wherein said ethylene copolymer resin is characterized by:
>
> i) a density from 0.950 g/cc to 0.955 g/cc;
>
> ii) a viscosity at 100,000 sec^{-1} shear rate and 280°C of less than 3.5 Pascal seconds;
>
> iii) a molecular weight distribution, weight average molecular weight/number average molecular weight, of from 2.2 to 2.8; and
>
> iv) a hexane extractables content of less than 0.5 weight%.

Claims 1-3 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Whetten, U.S. Patent 5,804,660 issued September 8, 1998, in view of de Groot, U.S. Patent 5,747,594 issued May 5, 1998.

Under 35 U.S.C. § 103, the factual inquiry into obviousness requires a determination of: (1) the scope and content of the prior art; (2) the differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) secondary considerations, if any. *See Graham v. John Deere Co.,* 383 U.S. 1, 17-18 (1966). "[A]nalysis [of whether the subject matter of a claim is obvious] need not seek out precise

teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740-41 (2007). "[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill." *Id. See also DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1361 (Fed. Cir. 2006) ("The motivation need not be found in the references sought to be combined, but may be found in any number of sources, including common knowledge, the prior art as a whole, or the nature of the problem itself.").

OPINION

Appellants contend that the containers of Whetten are made with a polymer blend which is characterized by the use of a specific impact modifier, component B, and "at least one polyolefin", component A. Appellants contend that Whetten does not teach or suggest the criticality of using an overall I/M composition formed from an ethylene copolymer resin that has a high density and narrow molecular weight distribution. (App. Br. 12-13).

The issue presented is: did Appellants identify reversible error in the Examiner's rejection of claim 1 under § 103? We answer this question in the negative. The issue turns on whether Whetten teaches or suggests I/M compositions formed from the ethylene copolymer resin that has a high density and narrow molecular weight distribution.

We have thoroughly reviewed each of Appellants' arguments for patentability. However, we are in complete agreement with the Examiner that the claimed subject matter is not patentable within the meaning of § 103 in view of the applied prior art. Accordingly, we will sustain the Examiner's rejection for the reasons set forth in the Answer and add the following for emphasis. [2]

The Examiner (Ans. 3-4) found that Whetten discloses a container (col. 2, ll. 2-7) having a nominal volume of 100 mL to 12 L (col. 2, l. 5). The container was prepared by injection molding (I/M) (col. 1, l. 48) of ethylene copolymer (col. 1, ll. 20-28). The Examiner determined that the ethylene copolymer resin was characterized by (1) a density from 0.942g/cc to 0.955 g/cc (col. 10, ll. 21-25); (2) a viscosity less than 3.5 Pascal seconds (col. 7, ll. 32-35): and (3) a molecular weight distribution from 2.2 to 2.8 (col. 10, l. 47). (Ans. 3). The Examiner recognized that Whetten failed to disclose the Vicat softening point and the hexane extractable content of the container. Relying on deGroot, the Examiner found that the Vicat softening point and hexane extractable content of the container were result effective variables with regard to the heat resistivity. (Ans. 4.)

Appellants assert that Whetten teaches the use of a very low density impact modifier which has a narrow molecular weight distribution and does not specify the use of a narrow molecular weight distribution for the overall composition which is to be injected molded. (App. Br. 10.) This argument is not persuasive because Whetten discloses the parts are formed from a

[2] Appellants have grouped the arguments for claim 1 to 3 together. Consequently, the appealed claims stand or fall with independent claim 1. Our analysis will be limited to claim 1.

polymer resin, component A, which forms up to 99% of the composition, having a high density of 0.955 g/cc. (Col. 10, ll. 21-25.) Whetten also discloses the component A has a molecular weight distribution of about 3 (col. 10, ll. 47-57). Appellants have not asserted that the claimed invention does not read on this narrow molecular weight distribution. Appellants also have not asserted the claimed invention does not read on the molecular weight distribution of component A and B when combined in amounts specified by the reference, that is, 99% component A and 1% component B.

Appellants have not refuted the Examiner's position that the Vicat softening point is a result effective variable. Rather, Appellants contend that Whetten's "silence (about Vicat softening point) should not be construed as indicating that the I/M parts taught by Whetten et al. '660 have a high Vicat softening point. In fact, the low density of the I/M parts of Whetten et al. '660 strongly suggests that these parts will not have a high Vicat softening point." (App. Br. 14.) This argument is not persuasive because the argument is premised on the use of predominantly low density ethylene copolymers. As stated above, Whetten discloses the parts are formed from predominantly a polymer resin having a high density of 0.955 g/cc as required by the claimed invention.

Whetten discloses the injected molded articles are subject to frozen free-drop impact resistant test. (Col. 11, ll. 51-64.) Appellants have not addressed how this drop impact resistant test compares to the drop impact resistant test of the claimed invention. Appellants acknowledge that the Examiner requested experimental evidence to support patentability of the

claimed invention. (App. Br. 7.) However, Appellants assert that the hypothetical blends discussed on App. Br. 6-7 evidence that "no combination of the teachings of Whetten and deGroot in any way suggests the use of an overall I/M composition having a MWD of from 2.2 to 2.8." (App. Br. 7.) We agree with the Examiner that experimental evidence would have been useful in determining the patentability of the claimed subject matter. As such forth above, Whetten discloses the I/M parts are formed from predominantly a polymer resin having a high density of 0.955 g/cc as required by the claimed invention and having a MWD that reads on the claimed invention. Appellants have not provided evidence that establishes, when components A and B of Whetten are combined in the ratios disclosed therein, the result does not fall within the scope of the presently claimed invention.

For the foregoing reasons and those stated in the Answer, we affirm the rejection presented in this appeal.

ORDER

The rejection of claims 1 to 3 under 35 U.S.C. § 103(a) is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

tf/ls

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